

# PATENT COOPERATION TREATY

Rec'd PCT/PTO 21 JAN 2005

From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

PCT

To:

RACKHAM, Stephen  
GILL JENNINGS & EVERY  
Broadgate House  
7 Eldon Street  
London EC2M 7LH  
GRANDE BRETAGNE

RECEIVED

18 MAR 2004

GILL JENNINGS & EVERY

NOTIFICATION OF TRANSMITTAL OF  
THE INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT

(PCT Rule 71.1)

Date of mailing  
(day/month/year)

16.03.2004

Applicant's or agent's file reference

IMPORTANT NOTIFICATION

International application No.  
PCT/JP 03/09887

International filing date (day/month/year)  
04.08.2003

Priority date (day/month/year)  
07.08.2002

Applicant  
MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD. et al.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.
4. **REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed inventions is patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

Name and mailing address of the international preliminary examining authority:



European Patent Office  
D-80298 Munich  
Tel. +49 89 2399 - 0 Tx: 523656 epmu d  
Fax: +49 89 2399 - 4465

Authorized Officer

Baumann, H

Tel. +49 89 2399-2131



# PATENT COOPERATION TREATY

PCTRec'd PCT/PTO 21 JAN 2005



## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

REC'D 17 MAR 2004

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|--|--|---|--|
| Applicant's or agent's file reference  |  | <b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)              |  |
| International application No.<br>PCT/JP 03/09887   | International filing date (day/month/year)<br>04.08.2003 | Priority date (day/month/year)<br>07.08.2002  |  |
| International Patent Classification (IPC) or both national classification and IPC<br>H05K13/00, H05K13/00  |  |   |  |
| Applicant<br>MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD. et al.   |  |   |  |
| <p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p><input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of 3 sheets.</p>   |  |   |  |
| <p>3. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> <li>I <input checked="" type="checkbox"/> Basis of the opinion</li> <li>II <input type="checkbox"/> Priority</li> <li>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</li> <li>IV <input type="checkbox"/> Lack of unity of invention</li> <li>V <input checked="" type="checkbox"/> Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</li> <li>VI <input type="checkbox"/> Certain documents cited</li> <li>VII <input type="checkbox"/> Certain defects in the international application</li> <li>VIII <input type="checkbox"/> Certain observations on the international application</li> </ul> |  |   |  |
| Date of submission of the demand<br><br>01.12.2003   |  | Date of completion of this report<br><br>16.03.2004   |  |
| Name and mailing address of the international preliminary examining authority:<br> European Patent Office<br>D-80298 Munich<br>Tel. +49 89 2399 - 0 Tx: 523656 epmu d<br>Fax: +49 89 2399 - 4465  |  | Authorized Officer<br>Telephone No. +49 89 2399-<br> |  |

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. **PCT/JP 03/09887**

**I. Basis of the report**

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

**Description, Pages**

1-19 as originally filed

**Claims, Numbers**

1-8 received on 12.02.2004 with letter of 11.02.2004

**Drawings, Sheets**

1/7-7/7 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).  
☐ the language of publication of the international application (under Rule 48.3(b)).  
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority in written form.  
☐ furnished subsequently to this Authority in computer readable form.  
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.  
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:  
☐ the claims, Nos.:  
☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY  
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International application No. **PCT/JP 03/09887**

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

|                               |             |         |
|-------------------------------|-------------|---------|
| Novelty (N)                   | Yes: Claims | 3-5,7,8 |
|                               | No: Claims  | 1,2,6   |
| Inventive step (IS)           | Yes: Claims | 3-5,7,8 |
|                               | No: Claims  | 1,2,6   |
| Industrial applicability (IA) | Yes: Claims | 1-8     |
|                               | No: Claims  |         |

2. Citations and explanations

**see separate sheet**

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/JP 03/09887

**Re Item I**

**Basis of the report**

The amendments filed with the letter dated 11.02.2004 do not introduce any subject matter which extends beyond the content of the international application as filed, and satisfy the requirements of Article 34(2)(b) PCT.

**Re Item V**

**Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

Reference is made to the following document:

D1: PATENT ABSTRACTS OF JAPAN vol. 2000, no. 07, 29 September 2000 (2000-09-29) -& JP 2000 118678 A (YAMAHA MOTOR CO LTD), 25 April 2000 (2000-04-25)

1. Claim 1 does not meet the requirements of Article 6 PCT in that the matter for which protection is sought is not clearly defined.

1.1 The feature in the apparatus claim 1 whereby the transfer of an unmounted substrate from the mounting-waiting process to the mounting process and the transfer of a mounted substrate from the mounting process to the discharge-waiting process are performed simultaneously relates to a method of using the apparatus rather than clearly defining the apparatus in terms of its technical features. The intended limitations are therefore not clear from this claim, contrary to the requirements of Article 6 PCT.

1.2 Claim 1 also attempts to define the subject-matter in terms of the result to be achieved, which merely amounts to a statement of the underlying technical problem. In particular, detecting means are described in terms of their desired role in detecting that a plurality of substrates are transferred into the discharge-waiting process as part of the same transfer, instead of in terms of the necessary technical features of the detecting means such as the arrangement of the sensors (see Guidelines III-4.7).

2. In so far as the examiner can understand the claims, the subject matter of claim 1 is not new in the sense of Article 33(2) PCT.

2.1 Document D1 is regarded as being the closest prior art to the subject-matter of

claim 1, and discloses (the references in parentheses apply to this document):

A substrate transfer apparatus for a component mounting machine for transferring a substrate into and out from a mounting process (operation conveyor, 3), comprising a mounting waiting process (inlet conveyor, 2) for making the substrate wait before the mounting process (see [0022]), and a discharge-waiting process (outlet conveyor, 4) for making the substrate after transfer from the mounting process wait before a following process (see [0024]), wherein a detecting means (sensors 18, 19, 20; see paragraph [0020]) is provided.

2.2 The feature of claim 1, whereby the transfer from the mounting-waiting process to the mounting process and the transfer from the mounting process to the discharge-waiting process are simultaneous, is interpreted as meaning that conveyors suitable for this purpose are provided (see Guidelines III-4.8).

The conveyors (2,3,4) in the apparatus according to D1 are driven independently, so that they are suitable to perform simultaneous transfer.

2.3 Likewise, the feature of claim 1 that a detecting means is provided for detecting that a plurality of substrates have been transferred into the discharge-waiting process (9) as part of the same transfer (i.e. continuously) is interpreted as meaning that detecting means suitable for this purpose is provided.

The detecting means provided by the apparatus according to D1, including a sensor (18) at the entrance of the discharge waiting process which is connected to a control unit provided to control the conveyors (see [0009]), is sufficient for this purpose, since it is possible to determine the presence and positions of a plurality of substrates on the basis of the signal coming from the detector (18) and the state of movement of the conveyor.

Thus, D1 discloses apparatus with all features of an apparatus according to claim 1.

3. Dependent claims 2 and 6 do not contain any features which, in combination with the features of claim 1 to which they refer, meet the requirements of the PCT in respect of novelty, the reasons being as follows:

The detecting means of the apparatus according to D1 includes a sensor (20) for detecting a mounted substrate transferred into the discharge waiting process, and a

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

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plurality of sensors (18, 19) provide upstream, which are suitable for detecting an unmounted substrate transferred at the same time (continuously) with the mounted substrate. Thus, the feature characterising claims 2 & 6 are known from D1.

4. The subject matter of dependent claim 3 differs from that disclosed in document D1 in that the substrate continuity detecting sensor is arranged at the position specified in the said claim. Thus, claim 3 meets the requirements of the PCT in respect of novelty (Article 33(2) PCT).

The object of the invention is to prevent the generation of a defective unmounted substrate in the event that the preceding mounted substrate gets stuck during transfer. None of the other cited documents, which reflect the technological background, discloses or gives incitement to the solution to this problem proposed in claim 3, so that the subject matter of claim 3 involves an inventive step (Article 33(3) PCT).

5. The subject matter of dependent claim 7 differs from the apparatus disclosed in D1 in the same way as the subject matter of dependent claim 3. Thus, claim 7 satisfies the requirements of the PCT in respect of novelty and inventive step for the same reasons as given in §4 above.

6. Dependent claims 4 and 5 and dependent claim 8, which define preferred embodiments of the invention, are dependent on claims 3 and 7 respectively, and as such also meet the requirements of the PCT in respect of novelty and inventive step.

7. Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the document D1 is not mentioned in the description, nor is this document identified therein.